USSR"

AYRAPET'YANTS, E. SH., et al., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1,158-1,167

coronary region was removed with destruction of the white substance underlying the cortex, complete degeneration of the ventral nucleus and partial degeneration of the medial dorsal and central lateral nuclei were seen. However visceral conditioned reflexes were also reestablished in 3 weeks. These results were said to show that both the thalamus and the cortex have structures involved in transmission and analysis of viscero-mechanical conditioned signals, but that these are differently organized. The main link of the visceral cortex is considered indispensible for normal activity of the visceral analysor.

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USSR UDC 616.61-002.151-07-035.7

FIGURNOV, V. A., and SKOLUBOVICH, G. V., Blagoveshchenskiy Medical Institute

"Errors in the Diagnosis of Hemorrhagic Fever With a Renal Syndrome"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunologii, No 9, Sep 70, pp 99-102

Abstract: A study was carried out to determine the incidence of and causes for errors in the diagnosis of hemorrhagic fever with a renal syndrome, as well as ways to eliminate these errors. A total of 252 case histories of patients suffering from this disease were analyzed. Various infectious, somatic, surgical, and neuropsychic diseases were incorrectly diagnosed in these cases. The number of diagnostic errors was particularly high (67.6%) when the patients were first examined in polyclinics. The number of erroneous diagnoses dropped to 32.4% when the initial examination was conducted in regional and district hospitals. Both objective and subjective causes were noted for the erroneous diagnoses (32.2% and 67.8% respectively). To eliminate erroneous diagnoses, it is suggested that the clinical picture be studied more exhaustively, that laboratory diagnosis and epidemiological studies of the disease be carried out, that movern diagnostic methods be studied at conferences and seminars, and that appropriate instructions be prepared and distributed to medical personnel.

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USSR

UDC 621.314.61(088.8)

FIGURNOV, YE.P. [Rostov-na-Donu in-t inzhenerov zh.-d. transp.--Rostov On Don Institute Of Railroad Transportation Engineers]

"Linear Solid State Rectifier"

USSR Author's Certificate No 266915, filed 26 June 67, published 7 July 70 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B638P)

Translation: In order to assure a direct proportionality between the a-c and rectified voltage in a rectifier circuit, a compensating device is used for a voltage drop at a semiconductor diode fed from a source of supplementary emf. A semiconductor diode is used as the compensating device and is connected to the reverse voltage in a circuit of rectifier current (regulating semiconductor diode) in series with the load. A supplementary transformer serves as a source of supplementary emf; the input a-c voltage is fed to the primary winding and the secondary is used for a supply of power across a supplementary rectifier and the resistance of the regulating semiconductor diode in the forward direction. 1 ill. A.S.

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USSR

UDC 669 - 174'24

STEPANOVA, M. V., KOROLEV, F. V., ZOLOTUKHINA, A. M., FIGUROVSKAYA, T. A., BOROK, B. A., and SHCHEGOLEVA, R. P., Moscow Institute of Steel and Alloys - of MZOTsM (Mosoow Plant for the Processing of Non-Ferrous Metals), Central Scientific Research Institue of Ferrous Metallurgy

"The Effect of Alloying of Carbonyl Nickel on its Recrystallization"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1973, pp 150-152

Abstract: Carbonylnickel samples containing W, MgO, Al_2O_3, Zr, and ZrO_2 were cold-deformed with a terminal deformation of 70%. Recrystallization annealing was carried out at 160-800°C (20-degree intervals) with holding times at 30 min. The temperatures of the start and end of recrystallization I (t_r^s and t_r^e, respectively) were determined from the Vickers hardness as a function of annealing temperature, with an experimental error of ± 5°C. The t_r^s and t_r^e of carbonyl nickel without any addivities were 330 and 400°C, respectively. These figures were 660 and 750°C with addition of 0.15% Zr; 500 and 730°C with 0.15% ZrO_2; 540 and 720°C with 4% W; 360 and 510°C with 0.2% MgO; and 400 and 540°C with 0.2% Al_2O_3, respectively. It is evident that the t_r^s increased by 330

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USSR

STEPANOVA, M. V., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1973, pp 150-152

and 210°C with the addition of Zr and W, respectively. This can be attributed to a slow formation of the recrystallization centers because of the interaction of dislocations with Zr and W atoms. Due to the fact that the t^{c}_{r} was increased from 400 to 750°C when 0.15% Zr was added to carbonyl nickel, it is recommended that the intermediate annealing temperature increased from 600 to 750-800°C.

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1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CONTINUOUS PROCESS FOR COOKING AND PRODUCING LEAD CRYSTAL TABLEWARE -U-

AUTHOR-(05)-MOKHNIN, N.F., FIGUROVSKIY, I.A., SAVONICHEV, G.V., ZUBANOV, V.A., YUDIN, N.A.

COUNTRY OF INFO--USSR

SOURCE--STEKLO KERAM. 1970, 27(2), 8-10

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LEAD, METAL CRYSTAL, GLASS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1991 STEP NO--UR/0072/70/027/002/0008/0010

CIRC ACCESSION NO--AP0118950

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118950

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COM. TECHNOLOGY FOR CONTINUOUS PRODUCTION OF TABLEWARE ARTICLES MADE FROM LEAD CRYSTAL WAS WORKED OUT FOR THE 1ST TIME. A BRIEF HISTORY OF THE PROBLEM AT HAND IS PRESENTED. AN ATTEMPT WAS ALSO MADE TO OBTAIN THE NECESSARY DATA FOR DESIGNING FUTURE FURNACES WITH A LARGER CAPACITY. THE BOUNDARY CONDITIONS WERE DETD. FOR THE CASE OF HEATING THIN AND MASSIVE BODIES SIMULTANEOUSLY BY RADIATION AND CONVECTION. THE COMPLEX HEAT TRANSFER IN THE UPPER CHAMBER WAS ALSO INVESTIGATED. PB OXIDE LOOSES FROM THE MELT ARE DECREASED BY USING AIR PREHEATED AND SATD. BY VOLATILE COMPONENTS IN A REGENERATIVE HEAT EXCHANGER. THIS METHOD ALSO IMPROVES THE HEAT TRANSFER IN THE FURNACE. FURTHERMORE, SUCH A PRODUCTION SETUP IS MUCH MORE ECONOMICAL. FACILITY: UPR. VLADIMIRSTEKO, VALIDIMIR, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--USE OF SEDIMENTATION ANALYSIS FOR STUDYING THE EFFECT OF THE MEDIUM ON THE DISPERSION OF COPPER POWDERS -U-

AUTHOR-(03)-KOMAROVA, I.A., KURINNOY, V.I., FIGUROVSKY, N.A.

COUNTRY OF INFO--USSR

SOURCE--PORoSHKOVAYA MET. JAN. 1970, (1), 6-9

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--COPPER POWDER, ELECTROLYTIC COPPER, SEDIMENTATION, BIBLIOGRAPHY, ELECTRODEPOSITION, COMMINUTION, ACETONE, METHYL ALCOHOL, CARBON TETRACHLORIDE, TOLUENE, CYCLOHEXANE, DIELECTRIC CONSTANT, CHEMICAL DISPERSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1312 STEP NO--UR/0226/70/000/001/0006/0009

CIRC ACCESSION NO--AP0109396

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109396

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISPERSING EFFECT OF THE MEDIUM ON A SUSPENSION OF ELECTROLYTIC CU POWDERS DEPOSITED FROM CUSO SUB4 SOLUTIONS AT 25DEGREESC WAS STUDIED ON THE BASIS OF CLASSICAL SEDIMENTATION ANALYSIS. MEDIA TESTED INCLUDED WATER, METHYL ALCOHOL, FURFURAL, ACETONE, CCL SUB4, CYCLOHEXANE, AND TOLUENE. THE DEGREE OF DISPERSION WAS DIRECTLY RELATED TO THE DIELECTRIC CONSTANT OF THE MEDIUM: E.G., FOR WATER THE MEAN PARTICLE SIZE WAS 7 MM, AND FOR TOLUENE 2 MM.

UNCLASSIFIED

USSR UDC 621.317.725

GORELIKOV, N. I., REYTBURG, M. Ya., FIGUROVSKIY, Ye. A., TSETENS, V. F.

"Use of Resistive Circuit Elements in High-Speed Automatic Digital Voltmeters"

V sb. Mikroprovod i pribory soprotivl. (Microwire and Resistance Devices --collection of works), vyp. 7, Kishinev, 1971, pp 160-164 (from RZh--Radiotekhnika, No 8, Aug 71, Abstract No 8A299)

Translation: The authors consider the use of serially produced resistive circuit elements in the digital-analog converters of miniature automatic digital voltmeters. The relations between some characteristics of such voltmeters of the balanced type and the parameters of individual elements of the converters are discussed. Recommendations are presented relative to the use of given elements. A. K.

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F

UDC 621.317.799:621.382.83

USSR

ILIYENKOV, A. I., KURCCHKIN, V. V., FIGURCVSKIY, Ye. A., of Novosibirsk

"A Digital Instrument for Measuring the Characteristics of Self-heating in Micro Circuits"

Novosibirsk, Avtometriya, No 2, 1970 pp 59-66

Abstract: There are two ways of measuring the effects of self-heating in a micro circuit. One involves holding the input voltage constant and measuring the change in output voltage as the circuit heats, the other, holding the output voltage constant and adjusting the input voltage to maintain it as the circuit heats. Since the output voltage is orders of magnitude greater, it is less demanding for the instrument to hold the input voltage constant.

The majority of this article is devoted to a detailed description of such an instrument designed in the Institute of Automation and Electronic Measurement, Siberian Branch, Academy of Sciences of the USSR. The instrument consists of four major units: an apparatus for adjusting the initial voltage to a working point (defined as half the supply voltage of the collecter, since this is the point at which the collecter dissipates maximum power), an output voltage divider, an output voltage measurement instrument, and an indicator. The apparatus for adjusting the circuit to a working point and the output voltage measuring instrument are described in detail and illustrated by

USSR

ILIYENKOV, A. I., et al, Novosibirsk, Avtometriya, No 2, 1970 pp 59-66

additional block diagrams. The initial adjustment apparatus works rapidly, in a pulse mode, so that very little energy is dissipated in the circuit prior to reaching the working point. Since the curve of self-heating is monotonic and approaches its limit asymptomically, additional accuracy is obtained by changing the time intervals between adjacent measurements as a function of the curvature of the path (rate of change of output voltage). The circuits which make this adjustment are described as part of the output voltage measuring unit.

The estimated errors are: 1% due to the change in output power, negligible due to heating before adjustment to the working point, 0.3% due to instrument errors, and 0.4% due to errors in approximation, amounting to a total of 1.7%.

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USSR

UDC 537.311.33

PETROV, V. M., BELOV, V. V., SHALYAPINA, L. M., and FIGUROVSKIY, YE. N.,
Moscow Institute of Steel and Alloys

"Identification of Narrow-Zone Alloys with Variable Composition"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 10, No 3, Mar 74, pp 418-422

Abstract: Single crystals of $Cd_xHg_{1-x}Te$ ($0.2 \leqslant x \leqslant 0.5$), with electron concentrations (difference between donor and acceptor concentrations) at 77°K equal to approximately 10^{16}-10^{14} cm^{-3} and mobility of about 10^5-10^3 $cm^2/v\text{-}sec$, were used to study the spectral distribution of quantum yield of the internal photoeffect. The lifetime of charge carriers and rate of surface recombination were determined. A table lists the possible methods of identifying narrow-zone alloys and the smallest sample size that can be used for each method. The prospective use of the quantum yield growth effect is indicated in the short-wave region for identifying small samples of the single crystals used and other narrow-zone phases of variable composition. Two figures, one table, 18 bibliographic references.

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1/2 076 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CHARACTERISTICS OF P N JUNCTIONS IN PBTE -U-

AUTHOR-(05)-ZHEMCHUZHINA, YE.A., FIGUROVSKIY, YE.N., IVANOV, A.I., INOZEMTSEV, K.I., KIREYEV, P.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, VOL. 15, NO. 3, 1970, PP 546-550

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--PN JUNCTION, LEAD, TELLURIDE, SINGLE CRYSTAL, MANUFACTURING METHOD, TEMPERATURE GRADIENT, ARGON, ATMOSPHERE, CRYSTAL GROWTH, ELECTRON HOLE, VOLT AMPERE CHARACTERISTIC, JUNCTION DIODE, IR SENSOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605008/B12 STEP NO--UR/0109/70/015/003/0546/0550

CIRC ACCESSION NO--AP0139945

UNCLASSIFIED

2/2 076 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139945

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALTHOUGH LEAD TELLURIDE HAS SOME INTERESTING PROPERTIES, ITS P N JUNCTIONS HAVE NOT BEE GIVEN ENOUGH ATTENTION. THIS ARTICLE CONSIDERS THE PROBLEMS IN THE WAY OF OBTAINING PBTE MONOCRYSTALS, THE MANUFACTURE OF THE P N JUNCTIONS AND THE INVESTIGATION OF SOME OF THEIR CHARACTERISTICS. PBTE IS MADE FROM 99.999PERCENT PURE LEAD AND TELLURIUM, BY WEIGHT, BY THE TEMPERATURE GRADIENT METHOD. THE OVEN IN WHICH THE COMPOUND IS SYNTHESIZED, AND ITS TEMPERATURE DISTRIBUTION WITH HEIGHT ARE SOWN IN A DIAGRAM. THE SYNTHESIS WAS MADE IN AN ATMOSPHERE OF SPECTRAL ARGON, AND THE OPERATING TEMPERATURE IN THE SYNTHESIS ZONE AND CRYSTAL GROWTH ZONE WAS MAINTAINED WITH AN ACCURACY OF PLUS OR MINUS 0.5PERCENT C. THE ELECTRON HOLE JUNCTIONS WERE MADE BY THREE METHODS: DIFFUSION OF THE LEAD; VAPORIZATION OF THE TELLURIUM; DIFFUSION OF INDIUM IN THE PBTE. DETAILS OF EACH OF THESE METHODS ARE GIVEN. THE VOLTAMPERE CHARACTERISTICS FOR VARIOUS DIODES, PLOTTED IN SEMILOGARITHMIC COORDINATES, ARE ALSO GIVEN. IT IS STATED THAT THE JUNCTIONS CAN BE USED FOR INFRARED RADIATION SENSORS, LASERS WITH A TUNABLE RADIATION SPECTRUM UNDER PRESSURE, AND SIMILAR DEVICES.

UNCLASSIFIED

USSR

UDC: 621.382.001.5

ZHEMCHUZHINA, Ye. A., [redacted], Ye. N., IVANOV, A. I., INOZEMTSEV, K. I., and KIREYEV, P. S.

"Characteristics of p-n Junctions in PbTe"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No. 3, 1970, pp 546-550

Abstract: Although lead telluride has some interesting properties, its p-n junctions have not been given enough attention. This article considers the problems in the way of obtaining PbTe monocrystals, the manufacture of the p-n junctions, and the investigation of some of their characteristics. PbTe is made from 99.999% pure lead and tellurium, by weight, by the temperature gradient method. The oven in which the compound is synthesized, and its temperature distribution with height are shown in a diagram. The synthesis was made in an atmosphere of spectral argon, and the operating temperature in the synthesis zone and crystal

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USSR

ZHEMCHUZHINA, YE. A., et al, Radiotekhnika i Elektronika, Vol 15, No 3, 1970, pp 546-550

Abstract:

growth zone was maintained with an accuracy of ±0.5° C. The electron-hole junctions were made by three methods: diffusion of the lead; vaporization of the tellurium; diffusion of indium in the PbTe. Details of each of these methods are given. The volt-ampere characteristics for various diodes, plotted on semi-logarithmic coordinates, are also given. It is stated that the junctions can be used for infrared radiation sensors, lasers with a tunable radiation spectrum under pressure, and similar devices.

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USSR

UDC 576.314:576.8

FIKHMAN, B. A., and CHEMERIS, N. A., Institute of the Biochemistry and Physiology of Microorganisms, Academy of Sciences USSR, Pushchino on the Oka

"The Mechanical Properties of Cell Walls of Microorganisms"

Moscow, Mikrobiologiya, Vol 40, No 6, Nov/Dec 71, pp 1060-1063

Abstract: The rheological properties of living cells of microorganisms can be determined on inclusion of these cells into macrofilms with known elastic properties. In the procedure applied, the elasticity modulus E of gelatin-glycerol films containing cells of microorganisms was determined by stretching the films in one direction. If addition of cells did not change E of a film with a definite composition, E of the cells could be assumed to be equal to that of the film. The relation $E = kc^9$ applied to gelatin-glycerol films, where c is the concentration of gelatin. On the basis of experimental results, the 0.1-600 $kg.mm^2$ range of E, which could be obtained by varying c, included the values of E corresponding to those of microorganisms. E for E. coli (0.26 kg/mm^2) corresponded to a gelatin concentration of 66.9%. At high values of c, stretching of the film was best carried out at a low rate (0.5 mm/sec). The properties of cells were not affected significantly by inclusion into the films and stretching of the latter. Experiments with

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USSR

FIKHMAN, B. A., and CHEMERIS, N. A., Mikrobiologiya, Vol 40, No 6, Nov/Dec 71, pp 1060-1063

Schizosacch. pombe incorporated into the films indicated that the cells could be readily observed under a microscope in the course of rheological studies. They retained their capacity for normal growth and division.

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Instruments and Equipment

USSR

UDC 615.471:57.086.12

ZAICHKIN, E. I., and FIKHMAN, B. A.

"A Simple Device for Freeze-Etching of Biological Specimens"

Moscow, Laboratornoye Delo, No 12, 1971, pp 741-742

Abstract: Due to the fact that complex and expensive vacuum ultramicrotomes are unavailable in many laboratories for the preparation of slides by the freeze-etching method for electron microscopes, the authors designed a simple device which can be successfully used in combination with the vacuum freezing unit. A detailed description of the device is given. The device makes it possible to obtain complementary images of both surfaces produced by a cut, that is, the first slide is not eliminated, as is the case of expensive freezing ultramicrotomes. The device was already tested and produced good results.

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USSR

UDC 578.67

ETKIND, R. A. and ZAICHKIN, E. I., Institute of Biochemistry and Physiology of Microorganisms, Academy of Sciences USSR, Pushchino-na-Oke

"Freeze-Etching of Microorganisms for Electron Microscopy"

Moscow, Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 168-172

Abstract: A modification of the freeze-etching method for fixation of microorganisms was tested using Endomyces magnusii. A concentrated suspension of cells in water containing 0.1% gelatin was used. The cells were frozen in the form of a thin layer between two copper grids by dipping them into fluid Freon 22 cooled by liquid nitrogen. The object was then transferred into a vacuum evaporator and using a special manipulator, the copper plates were separated in a vacuum of 5×10^{-6} mm Hg. Both halves were shadowed using platinum-carbon mixture and covered with a carbon film. After cleaning and mounting on specimen screens with a Formvar support, the preparations were observed under an electron microscope type JEM-7A. The electron microscope pictures revealed that the method of spalled surface enables one to obtain replicas of both uncovered complementary surfaces of the object.

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USSR UDC 576.809.31

USHAKOV, V. M., SILAKOVA, A. N., and FIKHMAN, B. A., Institute of Biochemistry and Physiology of Microorganisms, Academy of Sciences USSR

"Eccentric Vibrator for Mechanical Disintegration of Microorganisms"

Moscow, Prikladnaya Biokhimiya i Mikrobiologiya, Vol 7, No 4, Jul/Aug 71, pp 490-493

Abstract: An eccentric vibrator designed for hyperfine grinding of powders was tested for potential application for disintegration of microorganisms. Test cultures of E. coli and Staph. aureus were used, and spheroidized silica sand powders added to the microbial suspension were used as abrasives. The effectiveness of disintegration was determined by the percentage of disintegrated cells, the amount of protein escaping from the cells, and changes in the catalyzing activity in homogenates. Test results demonstrated that the eccentric vibrator effectively disintegrates microorganism cells and can be used for disintegration of large volumes of biomass. Mechanical disintegration is accomplished under relatively gentle conditions, leaving subcellular structures intact.

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Acc. Nr. AP0045784 Abstracting Service: CHEMICAL ABST 4-70 Ref. Code US0000

67415u **Extension of elastic liquids: polyisobutylene.** Vinogradov, G. V.; Radushkevich, B. V.; Fikhman, V. D. (Inst. Petrochem. Syn., Moscow, USSR). *J. Polym. Sci., Part A-2* 1970, 8, 1-17 (Eng). An app. is described and a method discussed for detg. the rheol. characteristics of elastic liqs. during extension at const. rates of deformation and extension. The material studied was polyisobutylene of mol. wt. 7×10^6. At low const. deformation rates steady-flow regimes were achieved, with corresponding equil. high elastic strains. A detailed study was made of the process of attainment of steady-flow regimes and it is shown that before steady flow is reached the curve of longitudinal viscosity vs. strain passes through a max. As the rate of deformation rises, the strains at which steady-state flow regimes are achieved increase, and the time required to reach these regimes decreases. Qual. this occurs in the same way as upon shear. The dependence of equil. high-elastic strains (under steady-flow regimes) on the rate of deformation was detd. At steady-flow regimes the stress depends linearly on the rate of deformation at low values of the stress. Under such conditions Trouton's formula is valid. At const. rates of extension the stress versus time curve passes through a max. which becomes higher with increasing extension rates.

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REEL/FRAME
19780777

UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 026

TITLE--EXTENSION OF ELASTIC LIQUIDS: POLYISOBUTYLENE -U-

AUTHOR-(03)-VINOGRADOV, G.V., RADUSHKEVICH, B.V., FIKHMAN, V.D.

COUNTRY OF INFO--USSR

SOURCE--J. POLYMER SCI. PT.A-2 POLYMER PHYS. (USA), VOL. 8, NO. 1, P. 1-17 (JAN. 1970)

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYISOBUTYLENE, MOLECULAR WEIGHT, DEFORMATION RATE, MATERIAL TESTING EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1096 STEP NO--US/0000/70/008/001/0001/0017

CIRC ACCESSION NO--AP0136516

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 026

CIRC ACCESSION NO--AP0136516

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APPARATUS IS DESCRIBED AND A METHOD DISCUSSED FOR DETERMINING THE RHEOLOGICAL CHARACTERISTICS OF ELASTIC LIQUIDS DURING EXTENSION AT CONSTANT RATES OF DEFORMATION AND EXTENSION. THE MATERIAL STUDIED WAS POLYISOBUTYLENE OF MOLECULAR WEIGHT 7 TIMES 10 PRIME4. AT LOW CONSTANT DEFORMATION RATES STEADY FLOW REGIMES WERE ACHIEVED. WITH CORRESPONDING EQUILIBRIUM HIGH ELASTIC STRAINS. A DETAILED STUDY HAS BEEN MADE OF THE PROCESS OF ATTAINMENT OF STEADY FLOW REGIMES AND IT IS SHOWN THAT BEFORE STEADY FLOW IS REACHED THE CURVE OF LONGITUDINAL VISCOSITY VERSUS STRAIN PASSES THROUGH A MAXIMUM. AS THE RATE OF DEFORMATION RISES, THE STRAINS AT WHICH STEADY STATE FLOW REGIMES ARE ACHIEVED INCREASE, AND THE TIME REQUIRED TO REACH THESE REGIMES DECREASES. QUALITATIVELY THIS OCCURS IN THE SAME WAY AS UPON SHEAR. THE DEPENDENCE OF EQUILIBRIUM HIGH ELASTIC STRAINS (UNDER STEADY FLOW REGIMES) ON THE RATE OF DEFORMATION HAS BEEN DETERMINED. AT STEADY FLOW REGIMES THE STRESS DEPENDS LINEARLY ON THE RATE OF DEFORMATION AT LOW VALUES OF THE STRESS. UNDER SUCH CONDITIONS TROUTON'S FORMULA IS VALID. AT CONSTANT RATES OF EXTENSION THE STRESS VERSUS TIME CURVE PASSES THROUGH A MAXIMUM WHICH BECOMES HIGHER WITH INCREASING EXTENSION RATES. FACILITY: ACAD. SCI., MOSCOW, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF THE SIZE OF THE CHARGE OF A PRECIPITATION BATH ON THE FORMATION OF A FIBER WITH THE USE OF PACKING -U-

AUTHOR-(02)-VINOGRADOV, YU.A., FIKHMAN, V.D.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (2), 22-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TEXTILE INDUSTRY MACHINERY, MASS TRANSFER, CORDAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0044 STEP NO--UR/0183/70/000/002/0022/0024

CIRC ACCESSION NO--AP0132339

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132339

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FLOW RATE OF A SPINNING BATH CAN BE CALCD. FROM HYDRODYNAMIC CONSIDERATIONS AND FROM ITS MATERIAL BALANCE. FIBER FORMATION WITH THE USE OF PACKING INTENSIFIED THE MASS TRANSFER IN THE CORD AND IMPROVED THE UNIFORMITY OF FIBER PROPERTIES. THE MOST EFFECTIVE PACKING WAS CONICAL IN SHAPE, HAVING AN ANGLE OF 30DEGREES.

UNCLASSIFIED

USSR UDC: 532.72; 669.015.23

AKSEL'RUD, G.A., MOLCHANOV, A.D., FIKLISTOV, I.N. and KOSYK, V.P.

"Mass Transfer in Solid Body-Liquid System Under Action of High-Voltage Sparks in Pipe"

Minsk, Red. Kollegiya Inzh.-Fiz. Zh AN BSSR (Editorial Board of Engineering and Physics Journal, Academy of Sciences Belorussian SSR), 1972, Dept. manuscript in VINITI, No 4762-72 DEP of 25 Aug 72 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B1044 DEP)

Translation: From the approximation of the underwater point explosion theory the qualitative universal equations are obtained, which describe the kinetics of external mass transfer during oscillatory motion of liquid in the pipe excited by high-voltage spark discharges in the stationary liquid and in the steady flow. Experimental verification of these equations was conducted with the case of dissolving fixed cylindrical specimens of KNO_3 salt in distilled water. It confirmed the high effectiveness of spark discharge method. For instance,

USSR

AKSEL'RUD, G. A., et al., Red. Kollegiya Inzh.-Fiz. Zh AN BSSR, 1972, No 4762-72 DEP of 25 Aug 72

is dissolving a weighed layer of granulated gypsum, grain size of 1-1.5 mm, in a 38 mm diameter pipe, a 2.7 times increase of speed was achieved with discharge energy of 50 joule, frequency of 4 hz, energy density of 1400 kilojoule by 1 m^2 of weighed layer. The theoretical equations agree satisfactorily with the experimental data and in the range of investigation can be used for the design of mass transfer apparatus. 8 references.

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1/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--METHOD OF SPARK DISCHARGES FOR MASS TRANSFER ACCELERATION IN A SOLID LIQUID SYSTEM -U-
AUTHOR-(04)-MOLCHANOV, A.D., AKSELRUD, G.A., CHERNYAVSKIY, A.I., FIKLISTOV, I.N.
COUNTRY OF INFO--USSR

SOURCE--INZH.-FIZ. ZH. 1970, 17(2), 293-8

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPARK DISCHARGE, OSCILLATION, ACOUSTIC EMISSION, MASS TRANSFER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1826 STEP NO--UR/0170/70/017/002/0293/0298

CIRC ACCESSION NO--AP0118790

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPARK DISCHARGES CAUSING ACOUSTIC PULSED OSCILLATIONS IN THE LIQ. PHASE WERE EFFECTIVE IN ENHANCING DISSOLN. OF SOLIDS IN LIQS. THE EFFECT OF THE DISCHARGES WAS STUDIED EXPTL. BY USING KNO SUB3 CYLINDERS HANGING IN A LIQ. OR FASTENED PARTICLES OF GYPSUM. A MAX. INCREASE IN THE MASS TRANSFER COEFF. IS OBSD. IN THE RESULTING AMPLITUDE OF OSCILLATIONS RANGE OF 190-200 HZ WHEN THE FASTENED PARTICLES SHOWED AN INCREASE OF 500PERCENT; FOR THE LOOSE PARTICLES IT WAS 230PERCENT. THE INTENSITY OF SPARKING WAS 0.5-1 J AND THE DURATION OF A DISCHARGE WAS 25 MU SEC. FACILITY: POLITEKH. INST., LVOV, USSR.

UNCLASSIFIED

AA0051836 FIKS A.R UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

236489 AIR HUMIDIFIER comprises body connected by pipelines to a topping-up connection, tubular evaporating elements, an air duct formed by the inter-tube space and diffusors, and a ventilator set in a diffusor, having in its body levelling valves and compensatory elements in the form of rubber bulbs, within which are tubes with apertures on the surface. The working cavities of the body and the tubular evaporating elements are filled with hygroscopic material of wick type. On the topping-up connection is a removable filter filled with ion-exchange resins. This enables the device to work independently from a high pressure source. Air from the cabin is sucked up by the ventilator and goes via the diffusor into the inter-tube space, where it passes round the tubular evaporating elements, through the pores of which water is constantly evaporated into the air flow. From the inter-tube space the humidified air is ejected into the cabin. The evaporation of water from the pores of the tubular evaporating elements is due

19820250

AA0051836

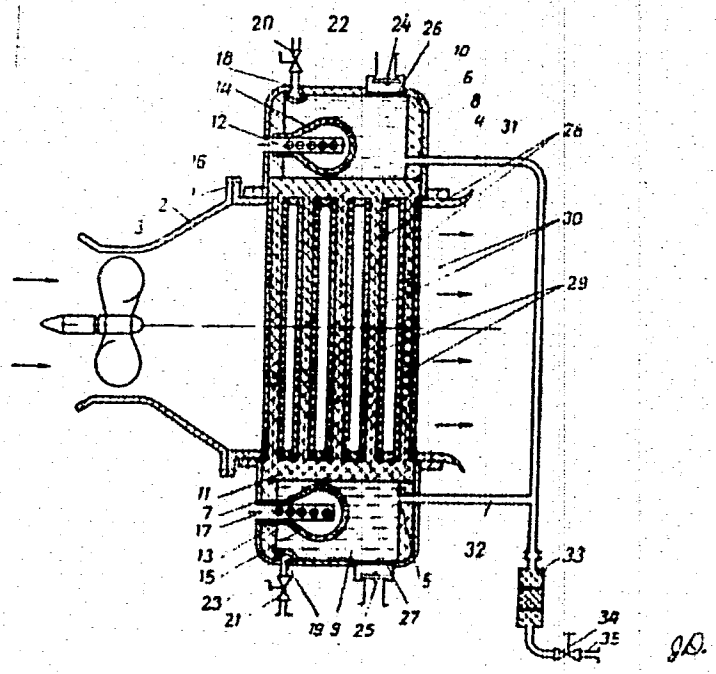
to the psychosometric temperature difference. The rate of evaporation of the water automatically increases or decreases as the humidity of the incoming air decreases or increases, i.e. the cabin air is kept properly humidified without automation equipment. The device is applicable to air conditioning systems of aircraft.
30.10.67 as 1193827/40-23 VORONIN G.I. et al.
(1.7.69) Bul. 7/3.2.69. Class 17f, 62c, Int. Cl.
F 25h, B 64d.;

Authors: Voronin, G.I.; Sharov, Yu.K.; Zav'yalov, Yu.F.; Fiks, A.R.; Matov, A.A.; Khobotov, A.P.

2/3

19820251

AA0051836



3/3

19820252

Acc. Nr: AP0036829 F Ref. Code: UR 0016 1

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 123-126

TYPES AND VIRULENCE OF HEMOLYTIC STREPTOCOCCI ISOLATED FROM SCARLET FEVER PATIENTS

Gladkova, K. K.; Strel'tsova, N. A.; Cherkasskaya, R. S.; Kaminskaya, E. I.; Fiks, L. I.

The type composition of hemolytic streptococci isolated from scarlet fever patients in 1966—1968 are presented. Of the typed strains, 134 (49%) belonged to type 4, and 63 (22.9%) — to type 1. The percentage of M-containing strains among the most widespread types of streptococci (4 and 1) was 68. The greatest number of M-containing cultures (77%) was revealed among the strains belonging to type 4, which was the «leading» during the period under study.

D.N.

1/1 6

REEL/FRAME
19721746

USSR

UDC 621.396.238

BOLOTOV, A.A., FIKS, Ya.A.

"Evaluation Of Effectiveness Of Use Of A System Of Transmission Of Discrete Information With Autointerrogation On Lines Of Ionospheric Scatter"

Moscow, Elektrosvyaz', No 12, Dec 1971, pp 20-25

Abstract: The results are discussed of tests of a system of transmission of discrete information with detection and autointerrogation of a distorted combination (ADC) on a line of ionospheric scatter 1500-km long passing through the middle latitudes. During the experiment an apparatus was used which made it possible to conduct simultaneously telegraphic operation with a 7-element code for four channels with a transmission rate in each channel equal to 48 baud. Because time-division multiplexing was used in the system, the rate of telegraphing in the group channel amounted to 192 baud. The authors conclude that use of an ADC system on ionospheric scatter radio lines makes it possible to decrease the number of errors 90--100 times with probabilities of error (by signs) in a channel smaller than $5 \cdot 10^{-2}$. The effectiveness of transmission with use of a feedback channel only for transmission of an "interrogation" proves to be above 90 percent with probabilities of errors (by signs) in a channel less than $2.5 \cdot 10^{-2}$. Use of an ADC system with 4-channel telegraphic

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USSR

BOLOTOV, A. A., FIKS, Ya. A., Elektrosvyaz', No 12, Dec 1971, pp 20-25

operation makes it possible to provide the same quality and reliability of communication as that in a system without ADC but with a smaller power of the transmitter and duplex reception. Use of ADC acquires a particular value when communication on an ionospheric line takes place in the presence of persistent noise. The experiment showed that in this case also the ADC system assures the necessary quality of communication with some slowing down of the transmission rate. The authors thank N. N. Shumskiy for his assistance. Received by editors 13 Oct 70. 3 ref. 3 fig. 1 tab.

2/2

AA0036147

F.Ks-Margolin, G.B.
UR 0482

1-70

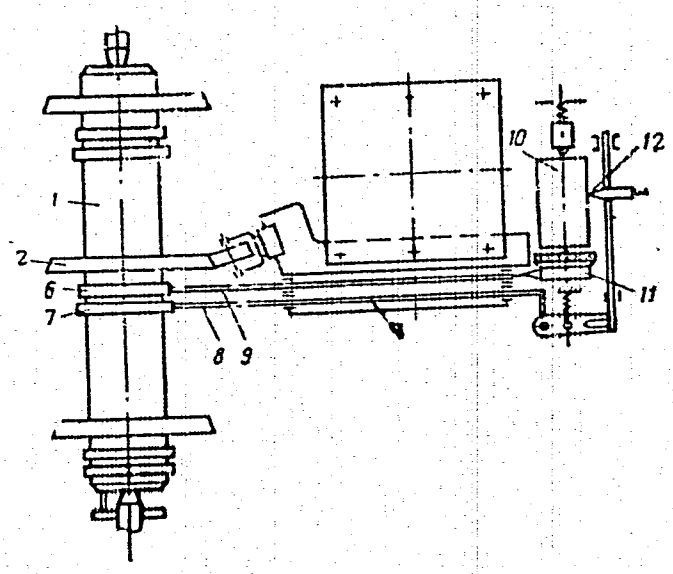
Soviet Inventions Illustrated, Section I Chemical, Derwent,

241076 METAL CUTTING MACHINES, device for recording total deformations, comprising a fitting (1) mounted on a spindle and carrying an eccentric cam (2) and a loading device provided with a recording mechanism. The cam (2) interacts with springs loading the machine, and a roller. The cams (6,7) are mounted on the fitting and interact with the load (8) and forcing out (9) push-rods, which transmit the cam displacement to the recording device provided with a drum (10) with a reducer (11), interacting with the push-rod (9), and with a pen (12) sliding on the drum and recording the total forcing out on a paper chart placed on the drum (10).

18

19720950

AA0036147



28.2.66 as 1058360/25-28. FIMS-MARGOLIN.G.B. (21.8.69)
Bul 13/1.4.69. Class 42k. Int.Cl.G 01l.

19720951

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DISTRIBUTION LAWS FOR SUDDEN AND PROGRESSIVE FAILURES OF AUTOMATIC ELEMENTS -U-
AUTHOR-(02)-SAPOZHNIKOV, R.A., FILADELFINA, N.A.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY. PRIBOROSTROYENIYE, NO 2, 1970, PP 122-126
DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--MECHANICAL FAILURE, AUTOMATIC ELECTRONIC SWITCH, PROBABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1696 STEP NO--UR/0146/70/000/002/0122/0126

CIRC ACCESSION NO--AT0123920

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0123520

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDY DISTRIBUTION LAWS FOR CORRECTIVE WORK TIME PROBABILITY. THESE LAWS TAKE INTO CONSIDERATION SUDDEN AND PROGRESSIVE FAILURES OF AUTOMATIC ELEMENTS. ADVANTAGES OF THE GENERALIZED DISTRIBUTION PROPOSED BY THE AUTHORS ARE INDICATED. FACILITY: LENINGRAD MECHANICAL INSTITUTE.

UNCLASSIFIED

USSR

UDC: 629.132.1 629.129

FILARETOVA, S. A., Leningrad Institute of Precision Mechanics and Optics

"An Algorithm for Determining the Location of a Moving Object"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 1, 1973, pp 68-71

Abstract: An algorithm is derived for determining the location of a moving object by the methods of inertial navigation. It is shown that in realization of this algorithm, no numerical instability arises in the case of low bit configuration of a specialized computer device installed on the object.

1/1

Acc. Nr.: AP0031636 Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 1, pp 20-23

CEREBRAL MICROCIRCULATION CHANGES IN ACUTE BLOOD LOSSES AND PROLONGED HYPOTENSION

Filatov, A.I.; Pashkovskiy, E.V.; Tsybulyak, G.N.
S. M. Kirov Military Medical Academy

Cerebral microcirculation was studied in dogs (31 experiments) with acute blood loss and subsequent protracted hypotension after Wigers. Investigations showed that in a massive loss of blood (averaging 41.3±2.2 ml/kg of the body weight) and subsequent hypotension (40 mm Hg) the pial arteries were seen to dilate, the relative degree of their dilatation depending upon the caliber of the arteries. The enlargement of pial arteries fails to compensate for the deranged cerebral circulation, this being witnessed by marked disorders of the carbohydrate metabolism and deccelerated rhythm on the EEG, which continue even after an adequate repletion of the blood loss and restoration of the morphological microcirculation picture.

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REEL/FRAME

19691763

USSR UDC 612.8.019.941

MERKULOVA, O. S., SOKOLOVA, Ye. V., and FILARETOV, A. A. (Reviewers)

Rezul'taty Issledovaniy po Morfologii, Neyroendokrinologii, Neyrofiziologii, Povedeniyu i Patologii Nervnoy Sistemy (Results of Investigations Into the Morphology, Neuroendocrinology, Neurophysiology, Behavior and Pathology of the Nervous System) by Lishshak, K. (Editor), Budapest, 1972

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 9, Sep 73, pp 1451-1452

Abstract: The collection contains articles about presynaptic influences on the formation of postsynaptic structures on the brain dendrites, the binding of H^3-estradiol to the brain and uterus, and the decrease in electrical activity of subcortical formation neurons on habituation to new conditions or on adding ACTH and corticosteroids. The reviewers question the hormone dosage level of the latter. Additional articles discuss the dependence of elicited potentials in the auditory core on the stimulus frequency, the influence of the hippocampus on the mesoencephalic structures, the correlation between cortical electrical activity and stimulation of the thalamus nucleus, the refractory period in the reinforcement of lateral hypothalamus structures and the influence of disturbances in cervical lymphatic flow on the EEG and brain function.

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FILARETOVA, S.A.

JPRS 58722
12 Apr 73

UDC 629.132.1, 629.129

ALGORITHM FOR DETERMINING THE POSITION OF A MOVING OBJECT

[Article by S. A. Filaretova, Leningrad, Institute of Precision Mechanics and Optics; Leningrad, Izvestiya VUZ, Priborostroyeniye, Russian, No 1, January 1973, recommended by the Chair of Engineering Mechanics, submitted 13 March 1972, pp 68-71]

The derivation of an algorithm for the determination of the position of a moving object by inertial navigation methods is considered. It is demonstrated that in the realization of the algorithm obtained no numerical instability originates with a low level of the specialized computing device installed on the object.

We will consider a semi-analytical inertial navigation system that is free in azimuth [1]. We will introduce the inertial system of coordinates $\xi\eta\zeta$ with its beginning at the center of the Earth, the axis ζ directed along the axis of the diurnal rotation of the Earth, and the axes ξ and η located on its equatorial plane, and the axis ξ lies on the plane of the Greenwich meridian at the moment of the beginning of the motion of the object (see drawing). Let us assume that the system of coordinates xyz with its beginning at the center of the Earth was rigidly connected with a stabilized platform of the inertial navigation system, the axis z is directed along the geocentrical vertical of the object, and the axes x and y are located on the plane of the platform. If we consider that the platform is ideally stabilized on the horizon, its motion may be considered as the rotation of a solid around a fixed point coinciding with the center of the Earth. The position of the trihedron xyz relative to the trihedron $\xi\eta\zeta$ is determined by the three angles θ, ψ and χ (see drawing), which are connected with the current coordinates of the object:

$$\theta = \frac{\pi}{2} + \lambda(t) + Ut; \quad \psi = \frac{\pi}{2} - \varphi(t).$$

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--RADIOISOTOPE DIAGNOSIS OF DECOMPENSATED TOXIC ADENOMA OF THE THYROID GLAND -U-

AUTHOR--KOTLYAROV, E.V., FILATOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 3, PP 38-44

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, THYROID GLAND, DIAGNOSTIC METHODS, MEDICAL NUCLEAR APPLICATION, IODINE ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1692 STEP NO--UR/0241/70/015/003/0038/0044

CIRC ACCESSION NO--AP0101747

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70.
CIRC ACCESSION NO--AP0101747
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER SETS FORTH THE RESULTS OF COMPLEX CLINICO LABORATORY AND RADIOISOTOPE INVESTIGATION OF 33 PATIENTS. IT WAS ESTABLISHED THAT THE INDICES OF RADIOISOTOPE INVESTIGATION OF PATIENTS WITH TOXIC ADENOMA OF THE THYROID GLAND SIGNIFICANTLY SURPASS (P IS GREATER THAN 99PERCENT) THOSE IN THE CONTROL GROUP OF PATIENTS. A COMPARISON OF THE RESULTS OF INVESTIGATION OF TOXIC ADENOMA OF MILD AND MODERATE FORM REVEALED NO STATISTICALLY SIGNIFICANT DIFFERENCES WITH THE EXCEPTION OF RADIOIODINE CONTENT IN THE BODY IN 196 HOURS, WHICH WAS HIGHER IN THE MODERATE FORM. AN ANALYSIS OF THE RESULTS TESTIFY TO THE FACT THAT EVEN IN A MILD FORM OF TOXIC ADENOMA THERE IS SEEN A DISTURBANCE OF ALL STAGES OF METABOLISM OF IODINE HORMONES: INTRATHYROID, TRANSPORT ORGANIC (EGGRESS OF HORMONES INTO THE BLOOD) AND PERIPHERAL.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--RADIOISOTOPE RENOGRAPHY AS A METHOD OF DETERMINING THE RENAL FUNCTIONAL CONDITION IN SYSTEMIC LUPUS ERYTHEMATOSUS IN CHILDREN -U-
AUTHOR-(03)-KARTASHEVA, V.I., BURTSEV, V.I., FILATOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--PEDIATRIYA 49(2): 54-58. ILLUS. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIOGRAPHY, PEDIATRICS, SKIN DISEASE, IODINE ISOTOPE, KIDNEY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0340 STEP NO--UR/0546/70/049/002/0054/0058

CIRC ACCESSION NO--AP0135831
UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135833

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA OF RADIOISOTOPE RENOGRAPHY WITH THE AID OF HIPPURAN I PRIME131 IN 30 PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AT THE AGE OF 7 TO 17 YR WERE GIVEN. RADIOISOTOPE RENOGRAPHY MAKES IT POSSIBLE TO REVEAL RENAL AFFECTION IN THE ABSENCE OF PATHOLOGICAL CHANGES OF THE URINARY TRACT. CHANGES IN A RENOGRAM ARE NOT PATHOGNOMIC FOR LUPUS NEPHROPATHY AND ARE SUCH IN OTHE BILATERAL INVOLVEMENT OF THE KIDNEYS. FACILITY: I. M. SECHENOV 1ST MOSCOW MED. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 681.32.001

UMOV, V. S., NOVOKOVSKIY, Ye. M., FILATOV, A. G., and KRANKOV, Ye. S.

"A Connector for a Printed-Circuit Board"

USSR Author's Certificate No 294269, filed 17 Apr 69, published 17 Mar 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B147 P)

Translation: The invention pertains to inspection facilities, specifically to devices for checking disconnected circuits on solid-state circuit boards. There are well-known devices designed for inspection of the output contacts of circuit boards which are made in the form of metal strips arranged in a parallel row with a definite spacing about the perimeter of the board. However, such devices are cumbersome and do not allow contact with the working areas of the solid-state circuit which are located on the flat surface of the board. The purpose of this invention is to improve the operational reliability of the connector for printed-circuit boards. To this end, the contact-holders in the proposed connector are made in the form of L-shaped strips fastened on round pins, and the housing has openings which accommodate the contact elements made in the form of multiple-leaf springs. Two illustrations.

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USSR UDC: 621.3.049.75

UMOV, V. S., NOVOKOVSKIY, Ye. M., FILATOV, A. G., KRANKOV, Ye. S.

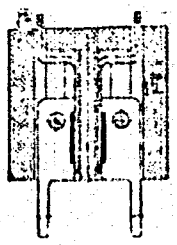
"A Connector for a Printed Circuit Board"

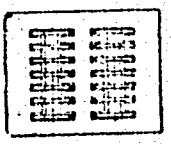
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 6, Feb 71, Author's Certificate No 294269, Division H, filed 17 Apr 69, published 26 Jan 71, p 180

Translation: This Author's Certificate introduces a connector for a printed circuit board. The device contains a dielectric housing which accommodates contact holders with contacts between which the printed circuit board is inserted. As a distinguishing feature of the patent, the operational reliability of the connector is improved by making the contact holders in the form of L-shaped strips fastened to circular pins and fitting the housing with apertures which hold the contact elements made in the form of multiple-leaf springs.

USSR

UMOV, V. S. et al., USSR Author's Certificate No 294269





2/2

FILATOV, A.I.

(4)

JPRS 59393

29 June 1973

APPLICATION OF DYNAMIC NUCLEAR POLARIZATION TO INCREASE THE SENSITIVITY AND SPEED OF NUCLEAR PRECESSION MAGNETOMETERS

[Article by G. V. Skrotskiy, A. P. Stepanov, V. N. Slutskiy, and A. I. Filatov; Leningrad, Geofizicheskaya Apparatura, Russian, No 42, 1970, pp [illegible]]

Despite the successful development of quantum optical magnetometers for different purposes, nuclear magnetometers continue to firmly hold their own for measurements on the earth, in outer space, and in the sea and are also used extensively for the solution of many geological problems /Rotshteyn and Tsirel', 1963/.

Nuclear precession magnetometers (NPM) have a number of essential advantages, not only in comparison with induction and ferroprobe magnetometers but also with respect to optical magnetometers. Nuclear precession magnetometers ensure high accuracy in absolute and relative measurements, do not require special temperature stabilization of the signal, do not have drift in the metering level of the signal, and their readings are practically independent of the orientation of the device's pickup in space relative to the direction of the field being measured. In addition, NPM are reliable and operationally stable, are small and light, and are convenient to use /Waters and Phillips, 1956; Ryzhkov and Skrotskiy, 1961; Pomerantsev, Ryzhkov, and Skrotskiy, 1967/.

The standard operating conditions of NPM are ensured by prior magnetization or polarization of the actuating material of the pickup. Polarization is usually realized by passing a direct current through the coil of the pickup. This current creates a rather strong constant magnetic field, which is called the polarizing field, in the volume of the actuating material. Under the influence of this field, the actuating material is magnetized after a certain time. After nonadiabatic switching off of the polarizing field, free precession of the nuclear magnetic moments of the actuating material that are oriented by this field develops about the direction of the measured magnetic field. The processing moments induce an EMF in the coil

[I - USSR - X]

USSR

UDC 611.8:534.612.1

ALEKSANDROV, L. N., DYSKIN, YE. A., ZLATISKAYA, N. N., KONKIN, I. F., DEV, I. D., TIKHONOVA, L. P., FILATOV, A. I., and SHADRINA, N. S., Department of Normal Anatomy, Military-Medical Academy imeni S. M. Kirov

"Condition of Some Nerve Structures After Exposure to Powerful Shock Waves"

Leningrad, Arkhiv Anatomii, Gistologii i Imbriologii, No 10, 1971, pp 12-20

Abstract: Cats were exposed to a powerful shock wave with an excess pressure of 0.1 to 10 kg/cm^2 lasting about 0.1 sec. The effect was not lethal and after the experiment the animals were externally indistinguishable from normal cats. They were sacrificed at various times during the 30 days following exposure to the shock wave and the nerves in the walls of the vena cava, digestive organs, dura and pia mater of the brain and spinal cord, pancreas, and thyroid were histologically examined. The medullated fibers and preterminal portions of the receptors underwent the most distinct changes. The axial cylinders were swollen and the contours uneven. Along the course of the fibers were solitary or multiple varicosities. These reactive changes were largely reversible. However, some of the nerve elements proved to be quite resistant to the shock wave, notably the nonmedullated fibers, some afferent structures (e.g., diffuse receptors), and encapsulated cell bodies.

1/1

USSR

UDC: 621.396.677

FILATOV, A. I., BELYNSKIY, A. S.

"Distortion of Wide-Band Signals by an Antenna With Arbitrary Polarization Characteristics"

Tr. Ural'skogo politekhn. in-ta (Works of the Ural Polytechnical Institute), 1970, sb. 183, pp 30-35 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B7)

Translation: The authors investigate the reasons for development of linear distortions in antennas which are designed for signals with elliptical polarization close to circular. The conditions are determined for which these distortions have a minimum value. One illustration, bibliography of 9 titles. N. S.

1/1

- 4K -

UDC: 621.396.67:621.396.965

USSR

FILATOV, A. I., BELYNSKIY, A. S.

"An Antenna With Controllable Radiation Pattern in the Horizontal Plane"

Tr. Ural'skogo politekhn. in-ta (Works of the Ural Polytechnical Institute), 1970, sb. 183, pp 25-29 (from RZh-Radiotekhnika, No 11 Jul 70, Abstract No 7B76)

Translation: The authors describe an antenna for the 3-cm band in the form of a radial waveguide which passes into a biconical horn and is excited at the center by a circular waveguide which is matched to the radial waveguide by three cylinders coaxial with it. The radiation pattern is controlled by means of an electrically controllable polarizer which consists of two ferrite rotators of the polarization plane separated by a ¼-wave plate of polystyrene, and a matched converter. Three illustrations, bibliography of nine titles. N. S.

1/1

USSR UDC 621.382.3(088.8)

DANILIN, V.N., KONSTANTINOV, P.B., KOROZOV, A.A., FILATOV, A.L., CHERNYAVSKIY, A.A.

"Transistor For Circuits With Automatic Gain Control"

USSR Author's Certificate No 256084, filed 10 June 67, published 19 March 70 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B163P)

Translation: In the proposed structure of a transistor for circuits with AGC, the electrodes for the emitter and base are made by alloy-diffusion technology (in contrast to deposition in mesa structures), and the small active area of the emitter junction, necessary to assure a decrease of gain at high frequency, is assured because of a radial clearance between the base layer and the emitter electrode. A high-resistance semiconductor wafer with a resistivity not less than 1 ohm.cm serves as the base for the device, and the invurability of the dimensions of the emitter electrode assures reliability of the emitter lead out connection irrespective of the area of the emitter junction. By changing the area of the radial clearance, it is possible to obtain transistors of various classes with constant dimensions of the initial blank [zagotovka]. P.S.

1/1

UDC 621.382.3

USSR

DANILIN, V.N., KONSTANTINOV, P.B., MOROZOV, A.A., FILATOV, A.I., CHERNYAVSKIY, A.A.

"Increase Of Cutoff Frequency Of Gain Of Alloy-Diffused Transistors"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, No 1(51), pp 152-161 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B417)

Translation: Methods are described for an increase of the cutoff frequency of the gain F_T of alloy-diffused transistors (to 1.5--2 GHz). The technological method proposed makes it possible directly to decrease the thickness of the active base and the area of the emitter junction of the transistor. With an increase of the cutoff frequency, it is possible to increase the value of the breakdown voltage of the emitter junction, and also to obtain a transistor suitable for use in circuits with direct automatic gain control. Experimental results are presented. 10 ref. Summary.

1/1

UDC: 539.374

USSR

IL'YUSHIN, A. A., Corresponding Member of the USSR Acadamy of Sciences; MOVLYANKULOV, Kh.; SUNCHALIYEV, R. M.; and FILATOV, A. N.

"Some Methods for Investigating Nonlinear Problems in Viscous-Elasticity Theory"

Doklady Akademii Nauk SSSR, vol 206, No 1, 1972, pp 59-61

Abstract: The authors find a simplified form of the general equations for the nonlinear theory of viscous-elasticity by eliminating the inertial term, thus obtaining an equation which describes quasi-static problems of the theory. They consider that this simplified form is reduced to a system of ordinary integrodifferential equations by the straight-line or Bubnov-Galerkin methods and show how these equations can be averaged for solving dynamic problems in nonlinear viscous-elasticity theory. They show also how the "freezing" method can be used to investigate integral equations which arise in quasi-static problems of the theory. They are associated with the Cybernetics Institute and Computer Center, Uzbek Academy of Sciences, at Tashkent.

1/1

FILATOV, Antonin NIKOLAYevich

Medicine

JPRS 57408

2 November [illegible]

FORTIETH ANNIVERSARY OF LENINGRAD SCIENTIFIC RESEARCH INSTITUTE OF HEMATOLOGY AND BLOOD TRANSFUSION

[Interview with the Scientific Supervisor of the Leningrad Institute of Hematology and Blood Transfusion of the USSR Academy of Medical Sciences, Professor Antonin Nikolayevich Filatov by Docent Ye. I. Zaytsev, Leningrad, Vestnik Khirurgii, Russian, No 6, 1972, pp 125-130. UDC 612.11[illegible].12-615.[illegible] /.39 (061.62 Leningrad)]

The Leningrad Scientific-Research Institute of Hematology and Blood Transfusion of the RSFSR Ministry of Health has marked its fortieth anniversary. A scientific session was convened in May 1972, dedicated to the Institute's anniversary.

Problems of blood transfusion, blood-substitute solutions, the use of preparations influencing hemopoiesis, and on the blood's coagulative system, have always attracted the rapt attention of surgeons. The editorial board of the journal Herald of Surgery imeni I. I. Grekov, turned to the scientific supervisor of the Leningrad Institute of Hematology and Blood Transfusion of the USSR Academy of Medical Sciences, Professor Antonin Nikolayevich Filatov, with a request to discuss the work which is being [illegible] at the Institute in the area of transfusiology.

Question: Antonin Nikolayevich, please tell us about the basic dir[illegible]tions of the Institute's work.

Professor A. N. Filatov: During the last 40 years of the Instit[illegible] existence, much has changed, including the subject matter of scientific re[illegible]search, although two directions in the scientific activity of the Instit[illegible] remain the same -- hematology and transfusiology.

Hematology -- is an area closer to specialists on internal disea[illegible] therefore I shall not talk in detail about the institute's work on the [illegible] of diseases of the blood and hemopoietic system or on the methods for th[illegible] treatment with the aid of various preparations. However, it is not [illegible] to delimit these two areas of scientific research. Frequently that [illegible] is obtained in the field of hematology finds application in the practice [illegible] surgery. Thus, for example, in the last ten years great successes [illegible] achieved in the treatment of various anemias. One may consider that at [illegible] present time it is possible to aid a patient rather rapidly and effectiv[illegible] in almost all forms of anemia (pernicious, agastric, hypoplastic, [illegible] and others). The only exception is the plastic form of anemia in which [illegible] there are not yet hemopoietic elements and the stimulation of hemopoiesi[illegible] has not proved successful.

[I - USSR - [illegible]]

Hematology

UDC 615.38.065

USSR

FILATOV, A. N., Professor, Academician, Academy of Medical Sciences USSR, Leningrad

"Complications Associated With Blood Transfusion, Their Prevention and Treatment"

Moscow, Klinicheskaya Meditsina, Vol 48, No 7, Jul 70, pp 6-12

Abstract: Post-transfusion complications are categorized as follows: 1) Those occurring where transfusion is not definitely indicated, resulting in congestive complications; 2) those resulting from improper preparation before transfusion (instruments that are unclean, rough, cracked, eroded or infected); 3) those connected with errors in the transfusion technique (too rapid introduction, air embolism, unfiltered blood, and thrombosis at the site of injection, which should be immediately followed by thrombectomy and heparin); 4) those connected with errors in selection and typing for compatibility (subjective sensibilities or allergies exist even in bloods of the same type). Meticulous observation of all safety factors will prevent complications. When complications occur, liberal administration of mannitol (60-100 g) is highly beneficial. In urgent cases various blood substitutes containing all of the essential elements can be transfused without serious complications.

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UDC 546.183 + 546.22

USSR

VOROB'YEV, M. D., FILATOV, A. S., and ENGLIN, M. A.

"Reaction of Phosphorus Trichloride With Difluorides of Perfluoroalkylimines of Sulfur and Some of its Fluoroinorganic Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1942-1944

Abstract: The reaction of phosphorus trichloride with the difluorides of sulfur perfluoroalkylimines and some inorganic fluorinated sulfur compounds was investigated. It was established that the halogen exchange is accompanied by oxidation-reduction reactions. When phosphorus oxychloride was used -- the reaction mixture had to be heated to 150° or more. Sulfur hexafluoride appeared to be completely inert, failing to react with PCl_3 even at 180°C.

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EQUIPMENT
Aeronautical

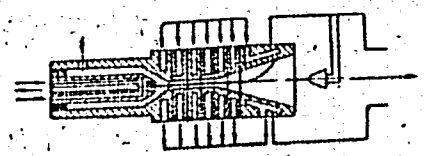
USSR

BLOKHIN, V. I., KONOTOP, V. A., FILATOV, A. S.

"High Temperature Supersonic Wind Tunnel with Arc Heating of Gas"

Otkrytiya Izobretmeniya Promyshlennye Obraztsy Tovarnyye Znaki, No 5, 1972, Patent No 359565.

Translation: A high temperature supersonic wind tunnel with arc heating of gas, containing a working portion and attached stabilizing cooled multisection nozzle with centrally cooled cathode with an insert of refractory material in its subsonic portion and an anode in its supersonic portion, differing in that in order to increase the effectiveness of testing, the cathode is installed a distance of 1.5-2 diameters before the critical cross section of the nozzle.



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USSR

UDC: 624.154.9

FILATOV, A. V. and SHCHVETS, B. Ya., Temirtau

"Using Pile-Columns in the Construction of the Karaganda Metallurgical Combine"

Moscow, Osnovaniya, fundamenty i mekhanika gruntov, No 2, 1971, pp 35-36

Abstract: The authors study the problem associated with the efficiency of using short pile-columns under the columns of single-story industrial buildings. A summary of results is presented from field testing for imbedding and horizontal loads. Data on production experience are given for a series of construction objects of the Karaganda Metallurgical Combine along with data on the economic and technical comparison of various foundation designs. The results show that the use of short pile-columns nearly eliminates earth work, reduces concrete work by 30-50%, and decreases labor expenditure by 45-30%. The cost of foundation construction under these conditions is reduced by nearly 60%, while building time requirements are cut from 1.5 to 1.7 times. Original article: one table and two figures.

1/1

USSR

FILATOV, B., Engineer; and SHERSHAKOVA, A., Engineer

"TUPV-0.25x2 Transistorized Radio Equipment"

Moscow, Radio, No 5, May 71, pp 22-23 and 25

Abstract: The article is a description of the 500 watt TUPV-0.25x2 transistorized relay equipment for broadcast programs. The radio is made by the "Promsvyaz'" Plant in Kiev. The unit is designed for operation where the ultrashort-wave frequency-modulated field strength is at least 50 μV/m. The installation incorporates two fixed-frequency superheterodyne receivers with a main-channel sensitivity of 25 μV at a signal-to-noise ratio of 50 dB at the output, an output voltage of 0.8 V and a reception band of 10-50,000 Hz. The main power supply to the installation is from a 220 VAC line, and there is also an emergency battery power supply. The installation also includes a remote panel with microphone for local reports. The unit is housed in a cabinet measuring 1500 x 731 x 596 mm. The entire installation including the cabinet, weighs 240 kg. The new equipment will replace the outdated TU-100 and Tu-600 amplifiers.

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UDC: 669.245:620.183

(3)

USSR

KALININA, Z. M., VERTIY, I. G., KHISMATULLINA, N. S., LONGINOV, M. E., SERGEYEVA, L. V., FILATOV, B. A., ARTEMOVA, S. P., Chelyabinsk

"Influence of Magnesium on the Structure of Heat-Resistant Nickel-Based Alloys"

Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 193-196.

Abstract: The influence of magnesium on the structure of nickel alloys was studied under the assumption that magnesium is concentrated primarily along the grain boundaries and in areas of other defects of the crystalline lattice. Assuming that a very slight concentration of magnesium could produce an excess of magnesium at these defect locations and thus hinder the separation of carbides and other excessive phases in these locations, facilitating their more even distribution through the entire volume of the alloy, the authors turned primary attention to the study of the influence of magnesium on the form, dispersion and nature of distribution of excess phases in the solid solution. It was found that the optimal addition of magnesium to heat resistant nickel-based alloys decreases dendritic liquation, makes the excess phases finer and facilitates their more even distribution. This

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(3)

USSR

Kalinina, Z. M., Vertiy, I. G., Khismatullina, N. S., Longinov, M. F., Sergeyeva, L. V., Filatov, B. A., Artemova, S. P., Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 193-196.

increases the technological plasticity and long-term strength of the metal. Excess alloying or enrichment of alloys with magnesium from the slag and lining in the furnace cause an increase in local chemical heterogeneity, in turn causing the appearance of new excess phases, decreasing the melting point of the metal in the area of these phases and reducing technological plasticity.

Free Radicals

UDC 541.127:541.117

USSR

MAKAROV, V. A., FILATOV, E. S., Moscow State University imeni M. V. Lomonosov, Moscow, Ministry of Higher and Secondary Specialized Education RSFSR

"Disproportionation and Recombination Reactions of Cyclohexyl Radicals at Low Temperatures"

Moscow, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 467-468

Abstract: The article describes results of a study of disproportionation and recombination reactions of cyclohexyl radicals in the 77-145° K range for purposes of elucidating the effect of temperature on solid-phase processes. The radicals were obtained by the Klein-Scheer method. The results indicate that the yield of bicyclohexyl increases with temperature elevation and rises sharply (two orders of magnitude) when the transformation temperature of cyclohexene ($T_t \approx 139°$ K) is crossed, while there is little change in the ratio of cyclohexene and cyclohexane yields.

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USSR

UDC 576.858.6:616.155.392

BARINSKIY, I. F., SHUBLADZE, A. K., BOCHAROV, A. F., FILATOV, F. P., and DEMENT'YEV, I. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Leukocytic Virus of Human Leukemia"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 729-730

Abstract: Three virus strains were isolated from donor cultures obtained from leukemia patients. The strains were not stable and decomposed on treatment with ether or after thermo-inactivation at 60°C for 30 minutes. They were apathogenic with respect to test animals (rabbits, adult mice, rats, guinea pigs) and chick embryos. They did not exhibit pronounced cytopathic activity in lung tissue and similar cultures. The leukocytic leukemia virus was found to have a density of 1.184 g/cm^3, which corresponds to the densities of known leukosis viruses of mice and birds. Electron-microscopic studies established the existence of typical leukemia particles with the characteristic morphology.

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USSR

UDC 539.3:534.1

SPORYKHIN, A. N., FILATOV, G. F.

"Using the Method of Excitation of Elastic Potential In Certain Stability Problems"

4-ya Vses. Konf. po Probl. Ustoychivosti v Stroit. Mekh., Tezisy Dokl. [Fourth All-Union Conference on Problems of Stability in Structural Mechanics, Abstracts of Reports], Moscow, 1972, p 26, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 V291).

Translation: The method of excitation of the elastic potential is used to study the influence of compressibility and moment stresses on the stability of elastic bodies of rubber-like materials and finitely deformable composites. It is assumed in both cases that the elastic potential W can be represented as $W = W_0 + \varepsilon W'$, where W_0 is the primary elastic potential, which determines the subcritical (not necessarily homogeneous) deformed state of the body, ε is a small dimensionless factor, W' is the excitation of the elastic potential. Concretization of the form of the dependence of W' on kinematic variables allows the influence of compressibility to be considered in the first approximation (W_0 then corresponds to an incompressible body), plus

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USSR UDC 539.3:534.1

SPORYKHIN, A. N., FILATOV, G. F., 4-ya Vses. Konf. po Probl. Ustoychivosti v Stroit. Mekh., Tezisy Dokl., Moscow, 1972, p 26.

moment stresses in the framework of the Kosser model with restricted rotation (W_0 in this case is independent of deformation tensor gradients). The characteristic determinants are produced and analyzed for particular examples.

2/2

USSR UDC: 539.3:534.231.1

FILATOV, G. F.

"On the Propagation of Weak Discontinuity Surfaces in Ideal Rubber Stocks"

Tr. NII Mat. Voronezh. un-ta (Works of the Scientific Research Institute of Mathematics), 1970, vyp. 2, pp 124-129 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V56)

Translation: The author considers an incompressible elastic body whose free energy has the form

$$B=B_0+c(T-T_0)-cT\ln\frac{T}{T_0}+\mu T(I_1-3)$$

Here I_1 is a function of the instantaneous coordinates, B_0 and T_0 are the free energy and temperature in the initial state, T is temperature, c and μ are constants. An equation is derived which defines the rate of propagation of surfaces of weak discontinuity. As a result of analysis of three special cases of this equation, explicit expressions are found for the velocities of three wave modes: acoustic, temperature, and mixed waves.
M. I. Rozovskiy.

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USSR

UDC 621.375.4+62-83

GLUKHAREV, A. A., DOROSHKEVICH, Ye. M., POTAPOV, A. A., FEDOROV, A. V., FILATOV, G. I.

"A Power Amplifier"

USSR Author's Certificate No 321916, filed 19 Sep 70, published 24 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9A81 P)

Translation: As a distinguishing feature of the proposed power amplifier, operational reliability is improved by adding a DC correcting link connected between a phase-insensitive rectifier and a transistorized controlled resistor. One illustration. V. T.

1/1

USSR UDC 616.314-089.843

FILATOV, G. N., Orenburg Medical School, City Stomatology Polyclinic

"Single-Stage Homotransplantation of Teeth"

Moscow, Stomatologiya, No 1, 1970, pp 28-31

Abstract: A total of 32 homotransplantations of teeth (selected with regard for the blood group and Rh factor in the human donors and recipients) were conducted. The Rh factor was positive in 27 cases and negative in 5. The alveoli of the recipients and roots of the donors were briefly treated with 5% sodium nitrate solution at 34-36° C, and 2% novocain solution was used as an anesthetic. The transplanted teeth were fixed with a plastic cement for 9 weeks. Follow-up examination from 1 month to 5 years after the operation showed that the teeth took in 28 of the Rh-positive and Rh-negative recipients. The four rejections occurred the first year, but the roots of these teeth were not resorbed. The recipients felt the transplants to be their own and they rarely voiced any complaints. The teeth were firm and painless on percussion, but attempts to separate them from the gums were accompanied by pain and bleeding. The reactions to heat and cold were the same as those of the other teeth.
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USSR

FILATOV, G. N., et al., Moscow, Stomatologiya, No 1, 1970, pp 28-31

In one case caries developed in the transplanted tooth a year after the operation and the process of filling it was painful, suggesting partial restoration of the blood supply and innervation.

2/2

UNCLASSIFIED PROCESSING DATE--03JUL70

TITLE--ACUTE HOMOTRANSPLANTATION OF THE TEETH -U-

AUTHOR--FILATOV, G.N.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 1, PP 28-31

DATE PUBLISHED-------70

18
5
23

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TISSUE TRANSPLANT, DENTISTRY, STOMATOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1978/1365 STEP NO--UR/0511/70/049/001/0028/0031

CIRC ACCESSION NO--APOC46247

UNCLASSIFIED

Acc. Nr: AP0046247 Ref. Code: UR 0511

PRIMARY SOURCE: Stomatologiya, 1970, Vol 49, Nr 1 , pp 28-31

G. N. Filatov — ACUTE HOMOTRANSPLANTATION OF THE TEETH

Summary. The author carried out 32 homotransplantations of the teeth in accordance with the group affinity of the blood of donors and recipients, with due consideration of their Rh-factor. In 27 Rh-positive recipients the teeth were transplanted from Rh-positive donors and in 5 Rh-negative recipients the teeth were transplanted from Rh-negative donors. A table has been elaborated for the selection of donor teeth and transplantation into similar and different alveoli of recipients.

The transplanted teeth were fixated with the aid of quick-setting plastics for nine weeks. The remote results (from 3 to 5 years) showed that 28 transplanted teeth were preserved. There were also seen four cases of rejection of teeth within the first year after transplantation. The roots of these teeth did not undergo resolution.

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19781365

UDC 624.07:534.1

USSR

POCHTMAN, Yu. M., FILATOV, G. V.

"Optimal Design of Beams Under Dynamic Loads by the Random Search Method"

Soprotivl. materialov i teoriya sooruzh. Resp. mezhved. nauch.-tekhn. sb. (Resistance of Materials and the Theory of Structures. Republic Interdepartmental Scientific-Technical Collection), 1972, No. 18, pp 72-78 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V240)

Translation: Problems of selecting optimal parameters for elastic beams ensuring minimum weight under forced vibrations are discussed. The problem is formulated in nonlinear programming terms where the target function is the minimum of the weight and the restraints are the conditions for strength and also the constraints on the magnitude of the maximum dynamic bending and the geometrical dimensions of the structure. One of the modern methods of optimization, random search (the algorithm of coordinate self-teaching), is applied to the study with the aid of a computer. The results of the calculations, profiles of optimal beams, are given. 6 ref. Authors' abstract.

1/1

USSR UDC 624.074.4:681.3

POCHTMAN, YU. M. and FILATOV, G. V., Dnepropetrovsk Construction Engineering Institute

"Optimization of the Parameters of Reinforced Cylindrical Shells by the Method of Random Search"

Kiev, Prikladnaya Mekhanika, Vol 9, No 5, May 1973, pp 33-43

Abstract: The paper deals with the synthesis of cylindrical shells, optimal with respect to volume, made of an ideally elastoplastic material, that are reinforced by stringers and ribs, during the combined action of axial compression and internal pressure. The discrete position of the ribs is taken into account. The thickness of the shell is subjected to variation, as are also the dimensions and the quantity of the stringers and ribs. The problem is formulated as a problem of partial nonlinear integer programming, in which the target function is the weight minimum of the shell, and the limitations are the conditions of strength and stability, and geometric restrictions with respect to dimensions. Optimization is conducted by the method of random search by means of an electronic digital computer. The exposition is illustrated by a numerical example. The research conducted in this paper for a series of reinforced shells confirms the supposition that account must be taken of special

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USSR

POCHTMAN, YU. M. and FILATOV, G. V., Prikladnaya Mekhanika, Vol 9, No 5, May 1973, pp 38-43

cases of the stability loss of shells with discrete placement of the reinforcement, without restriction of the consideration to a shell that is structurally orthotropic, with account taken only of the general case of buckling. 1 table. 9 references.

2/2

USSR UDC: 624.074.4:681.3

POCHTMAN, Yu. M., FILATOV, G. V., Dnepropetrovsk

"Design of Ribbed Plates of Minimum Weight Under Axial Compression by the Method of Random Search"

Kiev, Prikladnaya Mekhanika, Vol. 8, No. 1, 1972, pp 49-55

Abstract: Problems of selection of the optimal parameters of reinforced plates are studied (thickness of plates and ribs, distance between ribs, height of ribs) providing for minimum weight under axial compression. The discrete placement of the ribs is considered, as well as certain geometric limitations on dimensions. Some of the variable parameters indicated take on integer values only. The problem is formulated as a problem in nonlinear programming, where the goal function is the minimum weight of the plate, the limitations are the conditions of strength and stability. The mathematical apparatus used for computerized study is the method of random search (synthesis of an algorithm for coordinate-by-coordinate self-teaching with a local search algorithm). Numerical examples are presented.

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USSR UDC [illegible]

TATEVOSYAN, YE. L., [illegible], I. S., PAVLOV, N. N., and [illegible], YE. V.

"Aging of Plastics Under Tropical Conditions"

Moscow, Plasticheskiye Massy, No 3, 1972, pp 64-67

Abstract: Stability of plastics was investigated under conditions of [illegible] and a humid hot climate. Comparison of laboratory and field methods showed that a 3 month laboratory test corresponded to 2 years of field study. Phenolics were found to be stable under tropical conditions for 5 years, and on the basis of the insignificant changes which took place, the materials may be [illegible] for up to ten years. Epoxy resins and compounds made from them were stable [illegible] to two years at least, some parameters changing significantly after 4 months. The polyamides begin to deteriorate after 2.5 months, unless they are modified with fillers. The most significant changes were found to be due to [illegible] radiation; these types of materials could possibly be used in the tropic climate, provided they were not exposed to direct sunlight. Polyethylene [illegible] their properties up to six months; when copolymerized with [illegible] or methyl acrylate, their stability increases to about 2 years. [illegible] polyolefines maintain their properties for three months, the stabilized [illegible] for up to [illegible] years; the application of this polymer [illegible].

1/1

USSR UDC: 621.375.8

FILATOV, K. V.

"Introduction to the Engineering Theory of Parametric Amplification"

Vvedeniye v inzhenernuyu teoriyu parametricheskogo usileniya (cf. English above), Moscow, "Sov. radio", 1971, 175 pp, ill. 47 k. (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D329 K)

Translation: The book outlines the fundamentals of the theory of parametric amplifiers and converters of weak SHF signals. Particular attention is given to systems with two combination frequencies based on semiconductor varactors, which are already in extensive use. A less lengthy treatment is given of the basic properties of a converter and regenerative amplifier with three combination frequencies, particularly an amplifier with low-frequency pumping, these amplifiers being of considerable practical interest at the present time. The book also acquaints the reader with certain technical problems in this field: the homogeneous traveling-wave parametric amplifier, and other ways than using a PN junction for realizing nonlinear reactances on superhigh frequencies. Relationships are presented together with graphs which are convenient for calculations, as well as examples and problems. The book is written for radio engineers and scientific workers who wish to study this field of technology without special training. It can be used by students

FILATOV, K. V., Vvedeniye v inzhenernuyu teoriyu parametricheskogo usileniya, Moscow, "Sov. radio", 1971

of advanced courses in radio engineering departments specializing in the field of radio reception devices. 84 illustrations, bibliography of 52 titles. Annotation.

2/2

UDC 632.95

USSR

FILATOV, L. N., SHCHERBATYKH, Yu. I. and BARONINA, T. G.

"Kinetics of Crystallization of Some Pesticides Disposed to Supercooling"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants -- collection of works), No 2, Moscow, 1972, pp 98-103 (from RZh-Khimiya, No 22, 25 Nov 73, Abstract No 22N511 by V. A. Kozlov)

Translation: Study of the kinetics of crystallization of chlorophos (I), benzophosphate (II), and coditic (III) which can occur in a supercooled metastable state. The linear rate of crystallization was determined by observing the movement of the crystal-melt interface in glass capillaries with an inner diameter of 0.8 to 1.0 mm and about 0.01 mm thick. For I the maximum rate is at 40° and it varies with the purity of the product. For 86-, 91.9-, and 97.4% I, the rate of crystallization is respectively, $1.25 \cdot 10^{-3}$, $2.15 \cdot 10^{-3}$, and $4.8 \cdot 10^{-3}$ mm/sec, for 96% II $0.19 \cdot 10^{-3}$ mm/sec, and for 90% III 1 mm/sec.

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USSR

UDC 632.95

YUKHTIN, N. N., FILATOV, L. N., SHCHERBATYKH, Yu. I., SMOL'CHENKO, A. I., and SHVINDLERMAN, G. S.

"Preparation of Technical Chloro-Isopropylphenyl Carbamate in Crystalline Form"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants -- collection of works), No 2, Moscow, 1972, pp 31-35 (from RZh-Khimiya, No 22, 25 Nov 73, Abstract No 22N570 by A. F. Grapov)

Translation: In running the reaction of m-ClC_6H_4NCO with absolute iso-PrOH in the absence of solvents, it is easy to obtain chloro-isopropylphenyl carbamate in the form of a melt from which it can be processed quite efficiently in a drum crystallizer to obtain a crystalline product. Example. 68 ml of absolute iso-PrOH at 50-65° is added a drop at a time to 100 ml of 99% m-ClC_6H_4NCO, kept for 30 min at 60-70° and the excess iso-PrOH distilled off at 90°/150-200 mm. The melt with a melting point $\geq$ 45 to 50° is then placed in the crystallizer. Yield of chloroisopropylphenyl carbamate 98.2%, melting point 35.5-36.5°. The laboratory model of the crystallizer consists of a hollow cylinder (150 mm high and 50 mm in diameter) cooled by water. Rate of crystallization 10 to 11 $kg/m^2/hour$.

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1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DETERMINATION OF THE DURABILITY OF MATERIALS IN THE PRESENCE OF STRESS CONCENTRATION UNDER CONDITIONS OF BIHARMONIC LOADING -U-

AUTHOR--FILATOV, M.YA.

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, MAR. 1970, P. 20-23

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT, PHYSICS

TOPIC TAGS--STRESS ANALYSIS, DURABILITY, STRESS LOAD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0120 STEP NO--UR/3663/70/000/002/0020/0023

CIRC ACCESSION NO--AP0123892

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123892

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A METHOD FOR DETERMINING THE DURABILITY OF MATERIALS SUBJECTED TO BIHARMONIC LOADINGS WITH FREQUENCY COMPONENTS RANGING FROM 134,000 TO 300,000. THIS METHOD IS BASED ON A NONLINEAR PRINCIPLE OF THE SUMMATION OF DAMAGES AND ON EXPERIMENTAL DATA OBTAINED FROM SAMPLES WITH STRESS RAISERS.

FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR,INSTITUT MEKHANIKI, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--AN INVESTIGATION INTO THE FATIGUE OF STEEL WITH BI HARMONIC LOADING -U-

AUTHOR-(03)-BUGLOV, YE.G., KOLIKOV, E.A., FILATOV, M.YA.

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, JAN. 1970, (1), 46-49

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CYCLIC LOAD TEST, STEEL PROPERTY, FATIGUE STRENGTH/(U)0962 STEEL, (U)ST4 STEEL, (U)ST45 STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0275 STEP NO--UR/3663/70/000/001/0046/0049

CIRC ACCESSION NO--AP0124035

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0124035

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FATIGUE STRENGTH OF THREE STEELS, ST. 4, ST. 45, AND 09G2, WAS INVESTIGATED UNDER CONDITIONS OF TWO SUPERIMPOSED CYCLIC LOADS OF SUBSTANTIALLY DIFFERENT FREQUENCIES. SUCH A CONDITION OCCURS IN VARIOUS APPLICATIONS, E.G., ENGINES, POWER EQUIPMENT, AVIATION, AND SHIP CONSTRUCTION. EQUATIONS ARE PRESENTED FOR EVALUATING THE FATIGUE LIFE WITH BI HARMONIC LOADING IN TERMS OF THE SINGLE FREQUENCY FATIGUE CURVE.

UNCLASSIFIED

F

USSR UDC 621.376.5(?88.8)

FILATOV, N. A., ZUBKOV, Yu. A., KOLIBABA, I. I.

"A Pulse Modulator"

USSR Author's Certificate No 261459, Filed 23 Oct 68, Published 22 May 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D369 P)

Translation: This Author's Certificate introduces a pulse modulator which contains a high-voltage DC source with charging resistor, a vacuum-tube commutator, a sub-modulator, a correcting circuit made up of an inductor and a resistor, and a storage capacitor. To stabilize the amplitude of the pulses formed and to eliminate break-downs in the commutator and in the load, the modulator contains an additional storage capacitor which is connected in parallel to the main storage capacitor through a limiting resistor. V. P.

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USSR

UDC 577.4

FILATOV, O. I., PUGANOV, L. I.

"Planning and Warehouse Accounting for Material Values on a Computer"

V sb. Teoriya i praktika mash. obrabotki inform. (Theory and Practice of Machine Data Processing -- collection of works), Rostov-na-Donu, 1971, pp 30-34 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V536)

No abstract

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1/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--LABORATORY INSTRUMENT FOR EVALUATING THE ANTIWEARING PROPERTIES OF MOTOR OIL, HYDRAULIC FLUID, AND JET FUEL -U-

AUTHOR-(04)-FILATOV, P.G., KLIMOV, K.I., CHURSHUKOV, YE.S., YERMOLOV, F.N.

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TOPIC TAGS--PHYSICS LABORATORY INSTRUMENT, LUBRICATING OIL, HYDRAULIC FLUID, JET FUEL, TEST METHOD, FRICTION TEST, ANTIWEAR ADDITIVE

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS GIVEN OF A UNIT INITATING THE WORK OF REAL FRICTION PAIRS WITH SEQUENTIAL RECIPROCATING MOTION. ANTIWEARING PROPERTIES ARE DETERMINED IN THE VOLUME OF FILM OF THE FLUIDS TESTED. PROCEDURES FOR EVALUATING THE ANTIWEARING PROPERTIES OF OILS AND FUELS ARE DEVELOPED. THE ORIGINAL ARTICLE HAS TWO TABLES, TWO ILLUSTRATIONS, AND FOUR BIBLIOGRAPHIC ENTRIES.

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USSR UDC 612.748+612.815.2

GER, B. A. and FILATOV, P. P., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, USSR Academy of Sciences, Leningrad

"Intrasynaptic Diffusion in Two-Cell Synapses"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973 pp 486-489

Abstract: An attempt is made to show a dependence between the anatomical structure of a two-cell synapse and the spatial-temporal mediator distribution. Evaluating the time necessary for equalization of acetylcholine concentration in the synapse after one nervous impulse and comparing it to the actual postsynaptic current leads to a paradoxical lack of dependence. Therefore a spatial-temporal function of acetylcholine concentration was constructed for enzyme absence which showed that transient mediator concentrations can greatly exceed equilibrium, leading to a biochemical assymetry of the postsynaptic membrane. Adding a term for cholinesterase concentration in the second fissure excludes the possibility of stationary acetylcholine concentration in the system in general. The equations allow one to prepare that the effect of curare is due to lowering the receptor concentration and decrease in the reactive postsynaptic membrane area.

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SIDOROV, N. V., GERASIMOV, Yu. V., KHAYRUTDINOV, R. M., ZILATOV, S. K., KHASIN, G. A., BARMOTIN, I. P., KAS'YANOV, A. G., CHEREMNYKH, B. A., and ISHMURZIN, M. G., Zlatoust Metallurgical Plant, Scientific Research Metallurgical Institute, Chelyabinsk

"Out-of-Furnace REfining of Low-Carbon Corrosion-Resistant Steels"

Moscow, Metallurg, No 12, Dec 70, pp 22-23

Abstract: The smelting technology of low-carbon corrosion-resistant steels in electric arc furnaces with argon scavenging in the foundry ladle has been developed and introduced into production at the Zlatoust Metallurgical Plant. The main principles of the out-of-furnace degassing effectiveness depends on the chemical composition of the steel, the slag, and the scavenging parameters were investigated.

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[redacted] FILATOV SK

Acc. Nr.: AN0104123 Ref. Code: ZUP9003

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON LENIN AND STATE PRIZES, U.S.S.R.

NEWSPAPER-- IZVESTIYA, MAY 28, 1970, P 4, COLS 1-5

ABSTRACT-- NINETY ONE BASIC AND APPLIED RESEARCH WORKS HAVE BEEN NOMINATED FOR THE STATE PRIZES. TWO OF THESE, "THE MULTI-PURPOSE INDUSTRIAL HELICOPTER KA-26", BY N. I. KAMOV, V. B. AL,PEROVICH, V. B. BARSHEVSKIY, A. A. DMITRIYEV, G. I. IOFFE, M. A. KUPEER, L. A. POTASHNIK, N. N. PRIOROV, A. G. SATAROV, I. M. VEDENEYEV, S. B. BREN, AND V. A. NAZAROV, AND "THE DEVELOPMENT OF TURBOFAN JET ENGINES NK-8 AND NK-8-4, AND THE DEVELOPMENT AND REDUCTION TO SERIAL PRODUCTION A SYSTEM OF TECHNOLOGICAL PROCESSES WHICH ASSURED WIDE USES FOR TITANIUM ALLOYS", BY N. D. KUZNETSOV, M. T. VASILISHIN, V. A. KURGANOV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A. MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SHKODO, AND G. P. DOLGOLENKO, HAVE BEEN SUBMITTED BY THE MINISTRY OF THE AVIATION INDUSTRY.

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"A SERIES OF INVESTIGATIONS INTO THE DYNAMICS OF A BODY WITH FLUID-FILLED CAVITIES", /65-68/, BY N. N. MOISEYEV, A. A. PETROV, V. V. RUMYANTSEV AND F. L. CHERNOUS'KO AND "ULTRA HIGH PRECISION JIG BORING MILLS WITH 1,000 X 1,600 AND 1,400 X 2,240 MM PLATENS", BY A. I. KIR'YANOV, V. G. ABRAMOVICH, I. V. GUTKIN, A. S. ALIPIYEV, G. B. PAUKOV, AND A. S. YEGUDKIN, HAVE BEEN SUBMITTED BY THE COMPUTATION CENTER OF THE ACADEMY OF SCIENCES AND THE MINISTRY OF THE MACHINE TOOL CONSTRUCTION AND TOOL INDUSTRY, RESPECTIVELY.

"THE RADICALLY IMPROVED MELTING TECHNOLOGY OF CRITICAL-PURPOSE HIGH-ALLOY STEELS AND ALLOYS OF IMPROVED QUALITY ACHIEVED BY THE INERT GAS TREATMENT OUTSIDE THE FURNACE", BY YU. V. GERASIMOV, O. M. CHEKHOMOV, N. V. SIDOROV, S. K. FILATOV, B. A. CHEREMNYKH, R. M. KHAYRUTDINOV, I. P. BARMOTIN, L. K. KOSYREV, K. P. BAKANOV, N. N. VLASOV, P. I. MELIKHOV, AND N. A. TULIN, HAS BEEN SUBMITTED BY THE ZLATOUST METALLURGICAL PLANT.

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104896z Crystal-chemical limit of zirconium-calcium substitution in zirconium dioxide based on the fluorite motif. Filatov, S. K.; Frank-Kamenetskii, V. A. (Leningrad. Gos. Univ., Leningrad, USSR). *Kristallografiya* 1970, 15(1), 176–7 (Russ). The limiting structure of the $Zr_{1-x}Ca_xO_{2-x}$ system (I), satd. by 7-fold coordination polyhedra, $x = 0.25$, is discussed. The equal statistical distribution of vacancies in the vol. of the solid soln. leads to their localization in detd. positions in the fluorite structure and at the same time to a decrease of their symmetry. Crystals of compn. I cannot have the fluorite type of structure. The distribution of cations in I is statistical or localized. Deviations from the starting fluorite motif are brought about not only by ordering in the anionic or cationic part of the structure, but also by slight shifts of atoms. K. Volka

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